

TRANSLATION**PATENT COOPERATION TREATY****PCT****INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY**

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 44 665	FOR FURTHER ACTION	See Form PCT/IPEA/416
International application No. PCT/EP2004/011904	International filing date (<i>day/month/year</i>) 21.10.2004	Priority date (<i>day/month/year</i>) 21.10.2003
International Patent Classification (IPC) or national classification and IPC B23K20/10, B06B3/00		
Applicant SCHUNK ULTRASCHALLTECHNIK GMBH		

1.	This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
2.	This REPORT consists of a total of <u>5</u> sheets, including this cover sheet.
3.	This report is also accompanied by ANNEXES, comprising: a. <input checked="" type="checkbox"/> (<i>sent to the applicant and to the International Bureau</i>) a total of <u>7</u> sheets, as follows: <input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions). <input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box. b. <input type="checkbox"/> (<i>sent to the International Bureau only</i>) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).
4.	This report contains indications relating to the following items: <input checked="" type="checkbox"/> Box No. I Basis of the report <input type="checkbox"/> Box No. II Priority <input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability <input type="checkbox"/> Box No. IV Lack of unity of invention <input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement <input type="checkbox"/> Box No. VI Certain documents cited <input type="checkbox"/> Box No. VII Certain defects in the international application <input checked="" type="checkbox"/> Box No. VIII Certain observations on the international application

Date of submission of the demand	Date of completion of this report
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/EP2004/011904

Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language _____, which is the language of a translation furnished for the purposes of:
- ☐ international search (Rule 12.3 and 23.1(b))
- ☐ publication of the international application (Rule 12.4)
- ☐ international preliminary examination (Rule 55.2 and/or 55.3)
2. With regard to the elements of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:
- ☐ the international application as originally filed/furnished
- ☒ the description:
- pages 4-7 as originally filed/furnished
- pages* 1, 2, 2a, 3 received by this Authority on 12.07.2005 with letter of 07.07.2005
- pages* _____ received by this Authority on _____
- ☒ the claims:
- nos. _____ as originally filed/furnished
- nos.* _____ as amended (together with any statement) under Article 19
- nos.* 1, 3-13 received by this Authority on 18.04.2005 with telefax
- nos.* _____ received by this Authority on _____
- ☒ the drawings:
- sheets 1, 2 as originally filed/furnished
- sheets* _____ received by this Authority on _____
- sheets* _____ received by this Authority on _____
- ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.
3. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages _____
- ☐ the claims, nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to sequence listing (*specify*): _____
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages _____
- ☐ the claims, nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to sequence listing (*specify*): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

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Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
1.	Statement
	Novelty (N)
	Claims <u>1, 3-13</u> YES
	Claims _____ NO
	Inventive step (IS)
	Claims <u>1, 3-13</u> YES
	Claims _____ NO
	Industrial applicability (IA)
	Claims <u>1, 3-13</u> YES
	Claims _____ NO
2.	Citations and explanations (Rule 70.7)
1.	Documents cited
	Reference is made to the following documents:
	D1: FR-A-1 464 551 (GULTON INDUSTRIES, INC) 6 January 1967 (1967-01-06)
	D2: WO 02/43915 A (SCHUNK ULTRASCHALLTECHNIK GMBH; E. STEINER ET AL) 6 June 2002 (2002-06-06)
	D3: US-A-4 074 152 (K. ASAI ET AL) 14 February 1978 (1978-02-14).
2.	Claims 1 and 3-13
	Document D2, considered to be the closest prior art, discloses (see in particular figure 5) a tool (12) for an ultrasound welding device (abstract; figure 1), from which the subject matter of claim 1 differs by virtue of the features defined in the characterising part of said claim.
	The problem addressed by the present invention can consequently be regarded as that of devising an
	/...

Box No. V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

improved tool for an ultrasound welding device in order to reduce the deflection of the at least one working surface.

The solution to the above problem, as proposed in claim 1 of the present application, involves an inventive step (PCT Article 33(3)). The reasons are as follows:

a- D2 makes no provision for modifications to the end face of the sonotrode or sonotrode head. D1 relates to an ultrasound welding device, with which bending vibrations are to be produced. The sonotrode described in D1 has no reinforcement and no end face. D3 relates to an ultrasound exciter for vaporising a fluid. D3 discloses nothing to indicate an element excited into ultrasonic oscillation for influencing the motion of a reinforced work surface. The function of the projection is to connect a form-fitting connection to an ultrasonic oscillation amplitude booster.

Claims 3-13 are dependent on claim 1 and, in consequence, likewise satisfy the requirements of the PCT in respect of novelty and inventive step (PCT Article 33(2) and (3)).

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Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

1. Since a combined reference to multiple preceding claims (PCT Rule 6.4(a)) is inadmissible, the expression "at least" in claims 4-13 should be deleted.